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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/512,815 | 02/25/2000 | Alfredo Dal Pan | Q-57966 | 6697 |

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EXAMINER

KERNS, KEVIN P

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1725

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DATE MAILED: 05/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/512,815

Applicant(s)

DAL PAN, ALFREDO

Examiner

Kevin P. Kerns

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-28 is/are rejected.
- 7) ☒ Claim(s) 20,22,23 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(b) because they are incomplete. 37 CFR 1.83(b) reads as follows:

When the invention consists of an improvement on an old machine the drawing must when possible exhibit, in one or more views, the improved portion itself, disconnected from the old structure, and also in another view, so much only of the old structure as will suffice to show the connection of the invention therewith.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

Claim Objections

3. Claims 20, 22, 23, and 27 are objected to because of the following informalities: in claim 20, "associate" should be changed to "associated". In claim 22, "including also" should be changed to "also including". In claim 23, line 4, "aid" should be changed to "said". In claim 27, line 3, "mean" should be changed to "means". Appropriate correction is required. [note: these are the same claim objections cited in the final

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rejection, and addressed in the (non-entered) applicant's response (paper #6) of February 27, 2002.]

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 17-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claims 17, 22, 24, 25, 27, and 28, it has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchison, 69 USPQ 138.

Claim 23 recites the limitation "the arrangement". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edge (US 4,844,142).

Edge discloses a lost foam casting apparatus with a sand depositing mechanism (hopper), in which a series of molds (containers) are arranged around a supporting turntable conveyor with an associated vibratory platform (abstract; column 1, lines 5-9 and 21-30; column 3, lines 57-66; and Figures 1-9). The mold has a pattern P, in which the pattern is flexibly supported within a flask at the proper level by a carrier ring (model gripping means) with a pattern-supporting collar having springs, serving as positioning means for the pattern (column 3, lines 6-25; and Figures 8 and 9). Vertical movement of the containers is enabled by mobile equipment in the form of a hydraulic cylinder cooperating with connecting arms (column 3, lines 26-51; and Figures 1 and 2). The containers are clamped (container gripping means) while on the vibratory platform 46 for positioning the container (column 3, lines 51-55; and Figure 2). The operator of the apparatus will place a channel ring R over the top edge of the mold and flexibly dispose the pattern P it carries into position within the mold (column 6, lines 47-66; column 7,

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lines 13-21; and Figure 8). One of ordinary skill in the art would have recognized that, while vibrational forces are applied to the container containing the sand and pattern P, both structures are connected by common elements that would allow vibration essentially as a connected single piece. The flexible connection provided between the mold and pattern during the vibratory process is advantageous for preventing distortion and fracturing of the foam pattern, which would otherwise possibly occur if such a connection was rigid (column 7, lines 13-21).

9. Claims 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edge (US 4,844,142) in view of McMellon (US 4,736,787).

Edge discloses or suggests the elements of claims 17 and 21-23 above. Edge does not specifically teach centering elements for accurate positioning of elements in the apparatus, as well as a system that would recognize the status of the components of the system via identification signals.

However, McMellon discloses a lost foam handling system in which a plurality of stations comprised of gondolas on rails individually contains alignment means to position the flask-carrying gondolas relative to the compaction and dump stations, the positioning (alignment) device of which contains clevis-like (fork structure) and tongue-like members with a pivotally connected interlocking pin therebetween (abstract; column 3, lines 10-51; column 5, lines 5-11 and 17-29; and Figures 1-5). A controller that provides position and status signals to operate the conveyor and associated components include a programmable microprocessor to actuate the sequence at each

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of the plurality of stations (abstract; column 4, lines 48-66; and Figures 1 and 2). These features are advantageous for providing an automated conveyance system for lost foam casting with proper alignment and operation speeds at various stations to allow the system to be tailored to meet the specific needs and resources desired where the controller is installed (column 1, lines 6-15; column 2, lines 54-57; column 4, lines 61-66; and column 5, lines 5-11).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the apparatus of Edge with the lost foam system containing positioning (alignment) means, as well as a programmable microprocessor, both of which are disclosed by McMellon, in order to provide an automated conveyance system for lost foam casting with proper positioning alignment and operation speeds at various stations to allow the system to be tailored to meet the specific needs and resources desired where the controller is installed (McMellon; column 1, lines 6-15; column 2, lines 54-57; column 4, lines 61-66; and column 5, lines 5-11).

Response to Arguments

10. Applicant's arguments with respect to claims 17-28 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Bond reference is also cited to show related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin P. Kerns whose telephone number is (703) 305-3472. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703) 308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-6078 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

KPK

kpk
May 15, 2002


M. ALEXANDRA ELVE
PRIMARY EXAMINER